CLAIMS

1. A spiral separation membrane element, comprising one or more separation membranes, one or more feed-side channel components, one or more permeation-side channel components, and a perforated hollow core tube around which the separation membranes, the feed-side channel components and the permeation-side channel components are wrapped, wherein the feed-side channel component is a net formed by fusion bonding.

2. The spiral separation membrane element according to Claim 1, wherein the feed-side channel component comprises weft yarns crossing the direction of feed fluid flow and warp yarns arranged along the direction of feed fluid flow, and the weft yarns are thinner than the warp yarns.

3. The spiral separation membrane element according to Claim 1 or 2, wherein the feed-side channel component is a net channel component that is structured to have meandering warp yarns arranged along the direction of feed fluid flow.

4. The spiral separation membrane element according to Claim 1, wherein

the feed-side channel component has a two-layer structure comprising a first layer composed of first yarns and a second layer

composed of second yarns,

the first and second yarns each have a parallel part repeated and arranged substantially parallel to the direction of feed fluid flow and an oblique part repeated and arranged in a direction oblique to the direction of feed fluid flow, and

the parallel part of the first yarn and the parallel part of the second yarn are fused and bonded to form a hexagonal plane unit.

5. The spiral separation membrane element according to Claim 1, wherein the feed-side channel component has a three-layer structure comprising warp yarns arranged substantially parallel to the direction of feed fluid flow, oblique yarns arranged in a direction oblique to the direction of feed fluid flow, and reverse oblique yarns arranged in a direction that is reversely oblique to the direction of feed fluid flow with respect to the direction of the oblique yarns.